nature

NEWS | 23 September 2024

Octopuses and fish caught on camera hunting as a team

Although typically considered solitary animals, octopuses sometimes work wit fish to entrap prey.

By Helena Kudiabor

An octopus punches an 'opportunistic' blackfin grouper. Credit: Eduardo Sampaio

Octopuses normally hunt alone, but footage captured by divers has revealed that they can collaborate with fish to find their next meal. The videos, described today in *Nature Ecology & Evolution*[1], show that the different species even adopt specific roles to maximize the success of joint hunting expeditions.

“The octopus basically works as the decider of the group,” says co-author Eduardo Sampaio, an animal-behaviour researcher at the Max Planck Institute of Animal Behavior in Konstanz, Germany. “There’s a sign that some cognition is occurring here, for sure.”

Although octopuses have been spotted foraging alongside fish before, the relationship between the species had been unclear.

Sampaio and his colleagues used several synchronized cameras to collect 120 hours of footage while diving in the Red Sea. They captured 13 instances of cross-species group hunting, in which a big blue octopus (*Octopus cyanea*) worked alongside different species of fish to find and capture smaller fish and molluscs.

An octopus–fish hunting pack searches for prey. Credit: Eduardo Sampaio and Simon Gingins

Each of these scenes hinted at complex group dynamics, with different species adopting different roles. Goatfish (*Parupeneus* spp.), for example, tended to prompt fish of other species to move forward and explore new environments, and octopuses could 'convince' the group to stop moving by staying in a particular location. "The other fish provide several options, and then the octopus decides which one to take," says Sampaio. "There's this element of shared leadership."

RELATED

Duck! Octopuses caught on camera throwing things at each other

The octopuses also seemed to adapt and respond to different situations. In some groups, certain fish species — especially blacktip groupers (*Epinephelus fasciatus*) — were opportunistic, attaching themselves to the group without helping to find food. In some of these cases, octopuses would use their tentacles to 'punch' these opportunists in what seemed to be an attempt to punish them or get them to leave the group. Sampaio says that the team is interested in studying whether octopuses can recognize individual fish that have previously exhibited opportunistic behaviour.

The work is "really fascinating", and helps researchers to better understand "what would drive, in this case, groups of completely different species to stick together", says Hannah MacGregor, an animal-behaviour researcher at the University of Cambridge, UK. Further studies are needed to explore how group dynamics differ between environments, she adds.

doi: https://doi.org/10.1038/d41586-024-03127-5

References

1. Sampaio, E. *et al. Nature Ecol. Evol.* https://doi.org/10.1038/s41559-024-02525-2 (2024).

Reprints and permissions

Latest on:

Zoology Animal behaviour

We must train specialists in botany and zoology — or risk more devastating extinctions

WORLD VIEW | 24 SEP 24

Why cannibal queens make a meal of fungus-ridden larvae

RESEARCH HIGHLIGHT | 23 SEP 24

COVID pandemic started in Wuhan market animals after all, suggests latest study

NEWS | 20 SEP 24

Nature (*Nature*) | ISSN 1476-4687 (online) | ISSN 0028-0836 (print)